Section 150.
Coastal Buffer Zones

A. Definition

1. A Coastal Buffer Zone is a land area adjacent to a Shoreline (Coastal) Feature that is, or will be, vegetated with native shoreline species and which acts as a natural transition zone between the coast and adjacent upland development. A Coastal Buffer Zone differs from a construction setback (Section 140) in that the setback establishes a minimum distance between a shoreline feature and construction activities, while a buffer zone establishes a natural area adjacent to a shoreline feature that must be retained in, or restored to, a natural vegetative condition (Figure 2). The Coastal Buffer Zone is generally contained within the established construction setback.

B. Findings

1. The establishment of Coastal Buffer Zones is based upon the CRMC's legislative mandate to preserve, protect and, where possible, restore ecological systems.

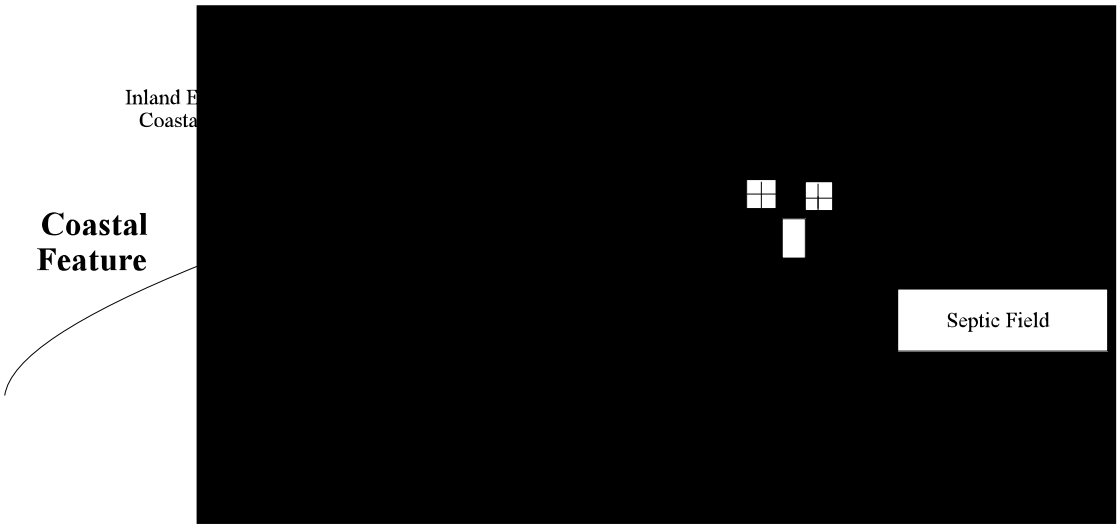
2. Vegetated buffer zones have been applied as best management practices within the fields of forestry and agriculture since the 1950s to pro-tect in-stream habitats from degradation by the input of sediment and nutrients (Desbonnet et al 1993).

More recently, vegetated buffer zones have gained popularity as a best management practice for the control and abatement of nonpoint source pollutants (contaminated runoff) and are routinely applied in both engineered and natural settings (Desbonnet et al 1993; EPA 1993).

3. Coastal Buffer Zones provide multiple uses and multiple benefits to those areas where they are applied (Desbonnet et al 1993). The multiple uses and benefits of Coastal Buffer Zones include:

(a) *Protection of Water Quality*: Buffer zones along the perimeter of coastal water bodies can be effective in trapping sediments, pollutants (including oil, detergents, pesticides, herbicides, insecticides, wood preservatives and other domestic chemicals), and absorbing nutrients (particularly nitrogen) from surface water runoff and groundwater flow. The effectiveness of vegetated buffers as a best management practice for the control of nonpoint source runoff is dependent upon their ability to reduce the velocity of runoff flow to allow for the deposition of sediments, and the filtration and biological removal of nutrients within the vegetated area. In general, the effectiveness of any vegetated buffer is related to its width, slope, soil type, and resident species of vegetation. Effective buffers for nonpoint source pollution control, which remove at least 50%, and up to 99%, of sediments and nutrients entering them, range from 15 feet to 600 feet in width.

Figure 2. An Example of the Application of a Coastal Buffer Zone



The removal of pollutants can be of particular importance in areas abutting poorly flushed estuaries that are threatened by an excess of nutrients or are contaminated by runoff water, such as the South Shore Salt Ponds and the Narrow River. Large, well flushed water bodies, such as Narragansett Bay, are also susceptible to nonpoint source pollutant inputs, and can be severely impacted by nonpoint source pollutants as has been documented in studies completed for the Narragansett Bay Project.

(b) *Protection of Coastal Habitat*: Coastal Buffer Zones provide habitat for native plants and animals. Vegetation within a buffer zone provides cover from predation and climate, and habitat for nesting and feeding by resident and migratory species. Some species which use coastal buffer zones are now relatively uncommon, while others are considered rare, threatened or endangered. These plants and animals are essential to the preservation of Rhode Island's valuable coastal ecosystem.

The effectiveness of vegetated buffers as wildlife habitat is dependent upon buffer width and vegetation type. In general, the wider the buffer the greater its value as wildlife habitat. Larger buffer widths are typically needed for species that are more sensitive to disturbances (e.g., noise). Furthermore, those buffers that possess vegetation native to the area provide more valuable habitat for sustaining resident species. A diversity of plant species and types (e.g., grasses, shrubs and trees) promotes biodiversity within the buffer area, and the region overall.

(c) *Protection of Scenic and Aesthetic Quality*: One of the primary goals of the Council is to preserve, protect, and where possible restore the scenic value of the coastal region in order to retain the visual diversity and unique visual character of the Rhode Island coast as seen by hundreds of thousands of residents and tourists each year from boats, bridges, and such vantage points as roadways, public parks, and public beaches (Section 330). Coastal Buffer Zones enhance and protect Rhode Island's scenic and visual aesthetic resources along the coast. Coastal buffers also preserve the natural character of the shoreline, while mitigating the visual impacts of coastal development. Visual diversity provides for both contrast and relief between the coastal and inland regions, leading to greater aesthetic value of the landscape.

(d) *Erosion Control*: Coastal Buffer Zones provide a natural transition zone between the open coast, shoreline features and upland development. Natural vegetation within a Coastal Buffer Zone helps to stabilize the soil, reduces the velocity of surface water runoff, reduces erosion of the soil by spreading runoff water over a wide area, and promotes absorption and infiltration through the detrital (leaf) layer and underlying soils. The extensive root zones often associated with buffer zone vegetation also help prevent excessive shoreline erosion during coastal storm events by stabilizing underlying soils.

(e) *Flood Control*: Coastal Buffer Zones aid in flood control by reducing the velocity of runoff and by encouraging infiltration of precipitation and runoff into the ground rather than allowing runoff to flow overland and flood low lying areas. In addition, Coastal Buffer Zones often occupy the flood plain itself and thus add to coastal flood protection.

(f) *Protection of Historic and Archaeological Resources*: Coastal Buffer Zones protect areas of cultural and historic importance such as archaeological sites by helping prevent intrusion while protecting the sites' natural surroundings.

C. Prerequisites

(a) All applications for which this Section applies shall be initially reviewed by the Executive Director or his designee. The Executive Director may grant a variance for such applications in accordance with this section, or refer any application to the Council for a hearing if based upon the application a determination is made that the proposed activity warrants a Council hearing.

D. Policies

1. The establishment of a Coastal Buffer Zone is based upon the CRMC's legislative mandate to preserve, protect and, where possible, restore ecological systems. The determination of the inland boundary of the Coastal Buffer Zone must balance this mandate with the property owner's rights to develop and use the property.

2. The Council shall require Coastal Buffer Zones in accordance with the requirements of this section for the following: a) new residential development; b) commercial and industrial development; c)

activities subject to Section 300.8 and Section 300.13; and d) inland activities identified in Section 320. For existing residential structures, the Council shall require a Coastal Buffer Zone for category "A" and "B" activities when the footprint of the structure is expanded 50 percent or more.

3. The vegetation within a buffer zone must be either retained in a natural, undisturbed condition, or properly managed in accordance with the standards contained in this section. In cases where native flora (vegetation) does not exist within a buffer zone, the Council may require restoration efforts which include, but are not limited to, replanting the Coastal Buffer Zone with native plant species.

4. Coastal Buffer Zones shall remain covered with native flora and in an undisturbed state in order to promote the Council's goal of pre-serving, protecting, and restoring ecological systems. However, the Council may permit minor alterations to Coastal Buffer Zones that facilitate the continued enjoyment of Rhode Island's coastal resources. All alterations to Coastal Buffer Zones or alterations to the natural vegetation (ie: areas not presently maintained in a landscaped condition) within the Council's jurisdiction shall be conducted in accordance with the standards contained in this section as well as all other applicable policies and standards of the Council. In order to ensure compliance with these requirements, the Council may require applicants to submit a Buffer Zone Management Plan.

5. In order to enhance conservation, protect water quality, and maintain the low intensity use characteristic of Type 1 and 2 waters, greater buffer widths shall be applied along the coastline abutting these water types.

6. In critical areas and when the property owner owns adjoining lots, these lots shall be considered as one lot for the purposes of applying the values contained in Table 2a and ensuring that the appropriate buffer zone is established.

Table 2a. Coastal Buffer Zone Designations For Residential Development

	Water Use Category		
Residential Lot Size (sq. ft.)	**Type 3, 4, 5 & 6**	**Required Buffer (ft)**	**Type 1 & 2**
<10,000	15	.....	25
10,000 – 20,000	25	.....	50
20,001 – 40,000	50	.....	75
40,001 – 60,000	75	.....	100
60,001 – 80,000	100	.....	125
80,001 – 200,000	125	.....	150
>200,000	150	.....	200

E. Standards

1. All Coastal Buffer Zones shall be measured from the inland edge of the most inland Shoreline (Coastal) Feature. In instances when the coastal feature accounts for 50 percent or more of the lot, the Council may grant a variance to the required buffer width.

2. *Coastal Buffer Zone Requirements for New Residential Development*: The minimum Coastal Buffer Zone requirements for new residential

development bordering Rhode Island's shoreline are contained in Table 2a. The Coastal Buffer Zone requirements are based upon the size of the lot and the CRMC's designated Water Types (Type 1 - Type 6). Where the buffer zone requirements noted above cannot be met, the applicant may request a variance in accordance with Section 120. A variance to 50% of the required buffer width may be granted administratively by the Executive Director if the applicant has satisfied the burdens of proof for the granting of a variance. Where it is determined that the applicant has not satisfied the burdens of proof, or the requested variance is in excess of 50% of the required width, the application shall be reviewed by the full Council. Instances where a lot is equal to or less than 20,000 square feet and not located within the watershed of a poorly-flushed estuary, a variance to the required buffer width may be granted by the Executive Director.

3. *Coastal Buffer Zone Requirements for Alterations to Existing Structures on Residential Lots*. All calculations for the requirements of a coastal buffer zone shall be made on the basis of structural lot coverage. Structural lot coverage shall mean the total square foot area of the structure(s) on a lot or parcel (ref. §300.3.A.5).

(a) Where alterations to an existing structure or structures result in the expansion of the structural lot coverage such that the square footage of the foundation increases by less than 50 percent, no new coastal buffer zone shall be required.

(b) Where alterations to an existing structure or structures result in the expansion of the structural lot coverage such that the square footage of the foundation increases by 50 percent or more, the Coastal Buffer Zone requirement shall be established with a width equal to the percentage increase in the structural lot coverage as of August 8, 1995, multiplied by the value contained in Table.

(c) Coastal Buffer Zones shall not be required when a structure is demolished and rebuilt on the existing footprint. Where a structure is demolished and rebuilt and will result in an expansion of the structural lot coverage such that the square footage of the foundation increases by 50% or more, a Coastal Buffer Zone shall be established with a width equal to the percentage increase in a structure's footprint, multiplied by the value contained in Table 2a.

(d) Where the applicant demolishes a structure, any contemporary or subsequent application to rebuild shall meet applicable setback requirements.

(e) Structures that are less than 200 square feet in area are excluded from these requirements.

In addition, the Executive Director shall have the authority to grant a variance to this requirement for category "A" assents in accordance with the burdens of proof contained in Section 120.

4. *Coastal Buffer Zone Requirements for all Commercial and Industrial development and activities subject to the requirements of Section 300.8, Section 300.13, or Section 320*: Coastal Buffer Zones shall be determined on a case-by-case basis by the Council. Table 2a may be used as appropriate guidance. However, depending on the activity proposed and its potential impacts on coastal resources, the Council may require a Coastal Buffer Zone with a width greater than that found in the Table 2a.

5. All property abutting critical habitat areas, as defined by the Rhode Island National Heritage Program or the Council, shall possess a minimum vegetated buffer zone of 200 feet between the identified habitat and any development area. The Executive Director shall have the authority to grant a variance to these requirements in accordance with the burdens of proof contained in Section 120.

6. All property abutting Coastal Natural Areas (Section 210.4) shall have a minimum vegetated Coastal Buffer Zone of 25 feet from the inland edge of the coastal feature. The Executive Director shall have the authority to grant a variance to these requirements in accordance with the burdens of proof contained in Section 120.

7. All property located within the boundaries of a Special Area Management (SAM) Plan approved by the Council shall meet additional buffer zone requirements contained within these SAM plans. When a SAM plan's buffer zone requirements apply, the buffer width values contained in this section will be compared to those required by the SAM plan, and the larger of the buffer widths applied.

8. The setback (Section 140) for all new and existing residential, commercial, and industrial structures shall exceed the Coastal Buffer Zone requirement by a minimum of 25 feet for fire, safety, and maintenance purposes. Where the 25 foot separation distance between the inland edge of the buffer and construction setback cannot be obtained, the applicant may request a variance in accordance with Section 120. The Executive Director shall have the authority to grant variances to this requirement. However, a vegetated Coastal Buffer Zone shall not directly contact any dwelling's footprint.

F. Buffer Management and Maintenance Requirements

1. All alterations within established Coastal Buffer Zones or alterations to natural vegetation (i.e., areas not presently maintained in a landscaped condition) within the Council's jurisdiction may be required to submit a Buffer Zone Management Plan for the Council's approval that is consistent with the requirements of this section and the Council's most recent edition of *Buffer Zone Management Guidance*. Buffer Zone Management Plans shall include a description of all proposed alterations and methods of avoiding problem areas such as the proper placement and maintenance of pathways. Applicants should consult the Council's most recent edition of *Buffer Zone Management Guidance* when preparing a buffer management plan.

2. In order to promote the Council's goal to preserve, protect and, where possible, restore ecological systems, Coastal Buffer Zones shall be vegetated with native flora and retained in a natural, undisturbed condition, or shall be properly managed in accordance with Council's most recent edition of *Buffer Zone Management Guidance*. Such management activities compatible with this goal include, but are not limited to:

(a) *Shoreline Access Paths*: Pathways which provide access to the shoreline are normally considered permissible provided they are less than or equal to 6 feet wide and follow a path that minimizes erosion and gullying within the buffer zone (e.g., a winding, but direct path). Pathways should avoid, or may be prohibited in, sensitive habitat areas, including, but not limited to, coastal wetlands. Pathways may be vegetated with grasses and mowed or may be surfaced with crushed stone or mulch.

(b) *View Corridors*: Selective tree removal and pruning and thinning of natural vegetation may be allowed within a defined corridor in order to promote a view of the shoreline. Only the minimal alteration of vegetation necessary to obtain a view shall be acceptable to the Council. Shoreline access paths shall be located within view corridors to the maximum extent practicable in order to minimize disturbance of Coastal Buffer Zones. View corridors shall be prohibited in sensitive or critical habitat areas.

(c) *Habitat Management*: Management of natural vegetation within a buffer zone to enhance wildlife habitat and control nuisance and non-native species of vegetation may be allowed. Homeowner control of pest species of vegetation such as European bittersweet and nuisance species such as poison ivy is normally considered acceptable. However, the indiscriminate use of herbicides or the clear-cutting of vegetation shall be prohibited. The use of fertilizers is generally prohibited within the Coastal Buffer Zone except when used to enhance the replanting of native vegetation (e.g., hydro-seeding) approved by the Council. However, the clearing or outright elimination of natural vegetation for such purposes as controlling ticks or pollen shall not be permitted.

(d) *Safety and Welfare*: Selective tree removal, pruning and thinning of natural vegetation within a Coastal Buffer Zone may be allowed by the Council on a case-by-case basis for proven safety and welfare concerns (e.g., removal of a damaged tree in close proximity to a dwelling). In order to promote child safety and manage pets in areas harboring ticks, fences along the inland edge of a Coastal Buffer Zone and along shoreline access pathways may be permitted.

(e) *Shoreline Recreation*: The CRMC recognizes that shoreline recreation is one of the predominant attractions for living on, or visiting the Rhode Island Coast. In order to allow for such uses, minor alterations of buffer zones may be permitted along the shoreline if they are determined to be consistent with Council's requirements. These alterations may include maintaining a small clearing along the shore for picnic tables, benches, and recreational craft (dinghies, canoes, day sailboats, etc.). Additionally, the CRMC may allow small, non-

habitable structures including storage sheds, boat houses and gazebos within Coastal Buffer Zones, where appropriate. However, these structures may be prohibited in sensitive or critical habitat areas. Due to the potential for these structures to impact values provided by Coastal Buffer Zones, the Council shall exercise significant discretion in this area.